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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/447,472	11/23/1999	JAMES B. ARMSTRONG	007412.00289	3863

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EXAMINER	
CHOWDHURY, SUMAIYA A	
ART UNIT	PAPER NUMBER
2421	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/447,472	ARMSTRONG ET AL.	
	Examiner	Art Unit	
	SUMAIYA A. CHOWDHURY	2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-8,19,21-25 and 27-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-8,19,21-25 and 27-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/22/10 have been fully considered but they are not persuasive.

(a) Applicant argues transferring of any movies between the tiers of Viswanathan is based upon anticipated requests and not in response to a frequently requested movie becoming infrequently requested and vice versa.

The Examiner disagrees. Viswanathan teaches a three tiered video server in which the dozen or so most popular releases will always be loaded into first tier, second tier would contain 200 of the next-most popular movies, and third tier would contain the lower-demand movies. Popularity is determined based on actual user request, and not on anticipated requests. The example provided in the reference about the movie "It's a Wonderful Life" is just an example provided to illustrate a holiday movie that rotates between all three tiers. Holiday movies make up a small fraction of movies. It is clear from referring to col. 2, lines 23-35, that the movies are transferred from one tier to another based on user request.

(b) Applicant argues Viswanathan teaches away from selecting a server, but instead teaches the use of a single three-tiered video server.

Claim 1 recites "in response to an infrequently requested video asset becoming frequently requested, is configured to select and transmit the frequently requested video asset to at least one primary partition of at least one server". Thus, the claim as

presently recited does not preclude the scenario in which there is only one server, and a movie is transferred from one partition another; the claim does not limit itself to at least two servers.

(c) Applicant argues with regard to claim 25, that Viswanathan fails to teach in response to an infrequently requested video asset becoming frequently requested, transferring the video to the primary partition.

The Examiner disagrees. As discussed above, Viswanathan teaches a three tiered video server in which the dozen or so most popular releases will always be loaded into first tier, second tier would contain 200 of the next-most popular movies, and third tier would contain the lower-demand movies. Popularity is determined based on actual user request, and not on anticipated requests.

(d) Applicant argues that Starnes fails to disclose determining whether the requested video asset is stored locally in the storage medium of that local server at which the video asset requested is received or stored remotely in the storage medium of the remote server.

The Examiner disagrees. Referring to col.5, lines 18-35, Starnes discloses the proxy server 102 which is local initially intercepts the request for content from the subscriber, and determines whether the request for data can be satisfied locally by the proxy server or acceleration server. If not, the proxy server forwards the request remotely over the Internet to the content server. Further in col. 6, lines 2-15, Starnes

discloses that once a request is made remotely and retrieved from the content server, the content is stored at the local server, so that the content can be quickly retrieved for subsequent requests. Further, referring to col. 7, lines 1-15, Starnes discloses an original version of the content is stored locally after it is retrieved from the remote server as a result of the user request.

(e) Applicant argues that the content stored locally are accelerated versions which are partial data, and does not include the entire data.

The Examiner disagrees. Firstly, the accelerated versions are not partial content, but compressed content in order to conserve memory. For example, Starnes discloses converted the content from GIF to JPEG in order to reduce file size (col. 9, lines 14-24). Secondly, Starnes does disclose storing the original version locally. Referring to col. 7, lines 11-15, Starnes discloses the image manager 212 can also store an original version of the image in the image store 214.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Viswanathan (5936659)

As for claim 1, Viswanathan teaches:

A server (three-tiered video server) configured to distribute requested video assets to requesting user equipment via the access network (col. 2, lines 24-45), the server comprising;

a storage medium (three-tiered video server) comprising a primary storage partition (first tier) configured to store frequently requested video assets, and a secondary storage partition (second tier and/or third tier) configured to store infrequently requested video assets (col. 2, lines 24-45);

a manager for managing migration of video assets, wherein the manager tracks asset request rates and threshold rates of respective video assets (Since the engine assigns movies as either being one of a high priority movie or low priority movie, and transfers a movie between the tiers based on the number of user requests, the asset and threshold rates are inherently tracked. Col. 2, lines 24-45);

wherein the manager, in response to an infrequently requested video asset becoming frequently requested, is configured to select and transmit the frequently requested video asset to at least one primary partitions of at least one server (Once a low priority movie becomes frequently requested, it is transferred to the primary partition, the first tier. Col. 2, lines 24-45);

wherein the manager, in response to a frequently requested video asset becoming infrequently requested, is configured to select and transmit the infrequently requested video asset to at least one secondary partition of at least one server (Once the high priority movie in the first tier becomes infrequently requested, it is transferred either to the second or third tier. Col. 2, lines 24-45);

As for claim 2, Viswanthan discloses the manager is configured to identify an infrequently requested video asset as becoming frequently requested when the asset request rate crosses above the threshold rate (when movie becomes high priority; col. 2, lines 24-45); and

The manager is configured to identify a frequently requested video asset as becoming infrequently requested when the asset request rate crosses below the threshold rate (col. 2, lines 24-45).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 3, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viswanathan in view of Ueno.

As for claim 3, Viswanthan teaches in response to receiving a request for a video asset received from requesting subscriber equipment, the manager controls distribution of the requested video asset from the server (col. 2, lines 24-45).

However, Viswanathan fails to disclose:

Transmitting the requested video asset from one of the servers.

In an analogous art, Ueno discloses:

distributing the movie from the head-end of a plurality of head-ends identified as storing the requested video asset to the requesting subscriber equipment (Abstract; col. 19, line 66-col. 20, line 9).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Viswanathan's invention to include the abovementioned limitation, as taught by Ueno, for the advantage of spreading out the video assets such that the processing power and memory required at a single head-end is reduced. A further advantage would be that the video would still be available to the user in the event that the designated head-end had a system failure.

Claim 19 contains the limitations of claim 1 and is analyzed as previously discussed with respect to that claim. Claim 19 additionally calls for the following which Viswanathan teaches:

determining an asset request rate for a plurality of video assets stored in each of a plurality of servers; comparing the determined asset request rates with respective threshold rates of the plurality of the video assets (Since the server assigns movies as

either being one of popular or not so popular, and transfers movies between the tiers based on the number of user requests, the asset and threshold rates are inherently tracked. Col. 2, lines 24-45);

However, Viswanathan fails to disclose multiple servers.

In an analogous art, Ueno discloses multiple headends which store video assets (Abstract; col. 19, line 66-col. 20, line 9).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Viswanathan's invention to include the abovementioned limitation, as taught by Ueno, for the advantage of spreading out the video assets such that the processing power and memory required at a single head-end is reduced. A further advantage would be that the video would still be available to the user in the event that the designated head-end had a system failure.

Claim 21 contains the limitations of claim 1 and is analyzed as previously discussed with respect to that claim.

6. Claims 4, 7-8, 22-25, and 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viswanathan in view of Ueno and Sato (6173328).

As for claims 4 and 22,

Viswanathan discloses a sever comprising a primary partition and a secondary partition as discussed above.

Ueno teaches:

Wherein a local server and the apparatus is operatively connected to a remote server (Abstract; col. 19, line 66-col. 20, line 9);

a content manager (service control unit 1007), for receiving the request for the video asset and determining whether the requested video asset is stored locally in the storage of that head-end (1005, col. 19, lines 37-43) at which the video asset request is received (local server 1005 and service control unit 1007 are a single unit; col. 21, lines 43-52) or stored remotely in the storage of a different head-end;

a stream session manager (server resources management control unit 1003), for directing the associated server to distribute streams of video assets to subscriber equipment requesting said the video assets (col. 19, lines 20-55);

Hoever, Viswanathan and Ueno fail to teach:

a content session manager for responding to video asset requests forwarded from managers of other ones of the head-ends.

In an analogous art, Sato discloses:

a content session manager for responding to video asset requests forwarded from managers of other ones of the head-ends (col. 6, lines 16-42).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Viswanathan and Ueno's invention to include the above mentioned limitation, as taught by Sato, for the advantage of effectively utilizing storage space amongst servers.

As for claim 7, Ueno teaches wherein the content manager of a local head-end at which a video asset request is received, in response to determining that a requested video asset is stored remotely in the storage of a remote head-end, instructs the stream session manager of the local head-end to contact the content session manager of the remote head-end (The local server 1005 and service control unit 1007 are one combined unit – col. 21, lines 43-50. A user request is received at the service control unit 1007 which determines where the requested video is stored - col. 19, lines 20-50. If it is determined that the video is stored remotely at server 1001, the video is requested from there and transmitted to the user).

As for claim 8, Ueno teaches wherein the content session manager of the remote head-end identifies the requested video asset in the storage of the remote head-end, allocates bandwidth for transmitting the requested video asset, and, in response to a determination that the requested video asset is to be provided from the remote head-end to the requesting subscriber equipment via the local head-end, notifies the server of the remote head-end to transmit the requested video asset to the local head-end using the inter-server network - col. 21, lines 43-50, col. 19, lines 20-50, col. 18, lines 21-57.

As for claim 23, Ueno discloses wherein the identified head-end is the local head-end (1005) coupled directly to the requesting subscriber equipment, the local

head-end provides the requested video asset to the requesting subscriber equipment via the access network (1008) – col. 19, lines 20-50, col. 21, lines 43-53.

As for claims 24, Ueno discloses wherein, the identified head-end is one of the remote head-ends, the local head-end requests the requested video asset from the remote head-end and the remote head-end provides the requested video asset to the local head-end via an inter-server network (The local server 1005 and service control unit 1007 are one combined unit – col. 21, lines 43-50. A user request is received at the service control unit 1007 which determines where the requested video is stored - col. 19, lines 20-50. If it is determined that the video is stored remotely at server 1001, the video is requested from there and transmitted to the user).

Claim 25 contains the limitations of claims 1 and 4 and is analyzed as previously discussed with respect to those claims. Claim 25 additionally calls for the following:

A plurality of head-ends comprising at least a local first head-end (local server) and a remote second head-end (center server); (Ueno; See Abstract);

A content session manager for receiving asset requests forwarded from other ones of the head-ends, identifying and retrieving requested video assets requested by content managers of other ones of the head-ends, and providing requested video assets to the other ones of the head-ends (Sato; col. 6, lines 16-42).

As for claim 28, Ueno discloses wherein, the identified head-end is one of the remote head-ends, the local head-end requests the requested video asset from the remote head-end and the remote head-end provides the requested video asset to the local head-end via an inter-server network (The local server 1005 and service control unit 1007 are one combined unit – col. 21, lines 43-50. A user request is received at the service control unit 1007 which determines where the requested video is stored - col. 19, lines 20-50. If it is determined that the video is stored remotely at server 1001, the video is requested from there and transmitted to the user).

As for claim 29, Ueno discloses wherein the content session manager of the remote head-end identifies the requested video asset in the storage of the remote head-end and allocates bandwidth for transmitting the requested video asset (When a user requests a VOD program, bandwidth is allocated. – col. 18, lines 21-57, col. 19, lines 20-56).

As for claim 30, Ueno teaches in response to a determination that the requested video asset is to be provided from the remote head-end to the requesting subscriber equipment via the local head-end, the content session manager of the remote head-end notifies the server of the remote head-end to transmit the requested video asset to the local head-end- (One the basis of the directions by the server resources management

control unit 1003, a video is transmitted, via channels 1019 (connection between local head-end and STB) to STUs – col. 18, lines 20-35, col. 19, lines 20-50).

As for claim 31, Ueno teaches in response to a determination that the server of the local head-end is available to receive the requested video asset from the remote head-end, the server of the remote head-end streams the requested video asset to the local head-end over the inter-server network – Fig. 10, col. 19, lines 20-50, col. 21, lines 40-55, col. 18, lines 20-32.

As for claim 32, Ueno teaches wherein the server of the local head-end received the requested video asset from the server of the remote head-end, wherein the received video asset is stored in the storage (buffer) of the local head-end – col. 18, lines 21-57, col. 19, lines 20-50.

As for claim 33, Ueno teaches in response to a determination that the requested video asset is to be provided directly from the remote head-end to the requesting subscriber equipment, the content session manager of the remote head-end requests the stream session manager of the remote head-end to allocate bandwidth for providing the requested video asset to the requesting subscriber equipment– col. 18, lines 21-57, col. 19, lines 20-50.

As for claim 34, Ueno teaches wherein the stream session manager of the remote head-end notifies the server of the remote head-end to stream the requested video asset to the requesting subscriber equipment– col. 18, lines 21-57, col. 19, lines 20-50.

7. Claims 6 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viswanathan, Ueno, and Sato as applied to claim 1 above, and further in view of Starnes (6510469).

As for claims 6 and 27, Viswanathan, Ueno, and Sato fail to disclose wherein a content manager of a local head-end at which a video asset request is received, in response to determining that a requested video asset is stored locally, notifies the stream session manager to deliver the requested video asset to the local server for transmission by the local server to the requesting subscriber equipment via the access network.

In an analogous art, Starnes discloses in response to determining that a file requested by the browser is stored locally, the proxy server notifies the acceleration server to deliver the file to the proxy server for transmission to the browser via the network (col. 5, lines 30-53, col. 6, lines 27-48).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Viswanathan, Ueno and Sato's invention to include the

above mentioned limitation, as taught by Starnes, for the advantage of expediting the process of delivering content to the user.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUMAIYA A. CHOWDHURY whose telephone number is (571)272-8567. The examiner can normally be reached on Mon-Fri, 9-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John W. Miller/
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Examiner, Art Unit 2421